

Serial No. 10/658,003

Reply to Office Action of April 26, 2005

REMARKS

Currently, claims 1, 3-13, 15-20 and 22-25 remain rejected under 35 U.S.C. §103(a) over Heenan (U.S. 3,332,327) in view of Coderre et al. (U.S. 6,325,515). The Examiner has made further reference to "Canadian Building Digest" (page 5 of 7) for evidence that poly(methyl methacrylate) has typical and flexural modulus values of 10,000 psi and 500,000 psi respectively.

Applicant respectfully requests reconsideration and allowance of the pending claims on the basis that the evidence of record is sufficient for rebuttal of a *prima facie* case of obviousness based on range overlap. The claim limitations as to tensile strength and flexural modulus are critical in forming markers in capable of satisfying Florida Specification 970 for two years of field performance (see declaration of David McHugh of record).

It is well-established law that a *prima facie* case of obviousness can be overcome when "the range is critical, merely by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Geisler*, 116 F.3d at 1469-70, 43 USPQ2d at 1365.

The remarks of record, and in particular the declaration of David McHugh, provide just such evidence to overcome a *prima facie* case of obviousness as exists with regard to the pending claims. The Examiner does not dispute or otherwise take exception to the information found within the declaration of Mr. McHugh. Rather, in Paper No. 20050419, page 4, section 3, it is stated that:

Declaration filed by applicant is noted; however, it does not overcome the fact that Heenan uses methyl methacrylate and "Acrylic (Polymethyl-Methacrylate)" article teaches that polymethyl-methacrylate properties have tensile strengths between 8000-11000 psi and flexural modulus between 350,000-500,000 psi and since tensile strength and flexural modulus are important properties considered when making reflective pavement markers,

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one skilled in the art would use tensile strengths as high as 11,000 psi and flexural modulus as high as 500,000 thus meeting the claimed limitation of greater than 10,000 psi and 450,000 psi.

Applicant submits that an improper standard is being applied under 35 U.S.C. §103(a) and that it is immaterial that poly(methyl methacrylate) properties have tensile strengths between 8000 and 11,000 psi and flexural modulus between 350,000 and 500,000 psi, since Applicant is only claiming a selected range of these values. Further, the claimed range is tied to pavement markers that are the only current pavement markers to satisfy Florida Specification 970 (declaration of David McHugh). As such, it is submitted that the *prima facie* case for obviousness has been overcome. Additionally, no further prior art has been cited as to the criticality being shown in the prior art of tensile strength greater than 10,000 psi and flexural modulus greater than 450,000 psi.

Applicant's position is supported that the pending claims are nonobvious by the fact that markers that were all made of poly(methyl methacrylate) submitted by competitors of the Applicant all failed to meet the requirements of Florida Specification 970. Competitive markers are by definition produced by individuals of ordinary skill in the art selecting from a vast array of poly(methyl methacrylate) grades. The attempts of these individuals of skill in the art to achieve such a result are also indicative of the nonobviousness of the pending claims.

Still further evidence for the criticality of the combined claim limitations as to tensile strength of greater than 10,000 psi and a flexural modulus of 450,000 psi is found in the Canadian Building Digest reference cited in the outstanding Office Action at page 5 of 7, Figure 2 and the paragraph immediately therebelow. It is stated that "Polymeric materials showing hard brittle behaviour at room temperature or below are polystyrene, poly(methyl methacrylate) (emphasis added) and many phenolformaldehyde resins." Such materials are noted in Figure 2

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as the leftmost stress-strain curve that has associated therewith low area under the stress-strain curve and typical elongation is about 2%. (Quoting from first paragraph, page 5 of 7). Applicant submits that one of skill in the art would not identify such a material as an attractive material choice in order to survive two years of field performance testing consistent with Florida Specification 970.

In contrast to the generally accepted behavior of poly(methyl methacrylate) according to page 5 of 7 in the Canadian Building Digest reference, Applicant submits that the limitations of the pending claims have performance characteristics associated with "hard and strong" polymers according to the Canadian Building Digest reference, Figure 2 and paragraph 2 found on page 5 of 7. The fact that this type of behavior normally associated with a rigid poly(vinyl chloride) formulation and polystyrene poly blends is found in a poly(methyl methacrylate) can only be attributed to the selection of a poly(methyl methacrylate) formulation that has **A TENSILE STRENGTH OF GREATER THAN 10,000 PSI AND A FLEXURAL MODULUS GREATER THAN 450,000 PSI.**

In view of the above remarks, Applicant submits that the Canadian Building Digest reference, in combination with the ability of a marker formed according to the present claims to withstand two years of field testing consistent with Florida Specification 970, and the fact that no other poly(methyl methacrylate) markers tested were able to satisfy the specification (see declaration of David McHugh), Applicant submits that the claim limitations have been shown to be critical to the success of the invention and that the cited claim limitations as to material properties are contrary to the results expected in the prior art. Thus, the *prima facie* case for obviousness under 35 U.S.C. §103(a) over Heenan (U.S. 3,332,327) in view of Coderre et al. (U.S. 6,325,515) has been rebutted.

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Withdrawal of the outstanding rejection is requested. Should the rejection be maintained, identification of teachings in the prior art that the critical claimed ranges of tensile strength and flexural modulus in combination are known to achieve the field durability as shown by a marker formed according to the pending claims is requested.

Summary

Claims 1, 3-13, 15-20 and 22-25 remain pending in this application. No amendments to the pending claims have been offered. Entry of this response is respectfully requested. Reconsideration and allowance of the claims and the passing of this application to issuance are solicited. Should the Examiner find to the contrary, it is respectfully requested that the undersigned attorney in charge of this application be contacted at the telephone number given below to resolve any outstanding issues.

Respectfully submitted,



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CERTIFICATE UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being sent to the United States Patent Office
via facsimile (703-872-9306) on June 24, 2005.



Janice R. Kuehn